REMARKS

Request for Reconsideration

Applicant has carefully considered the matters raised by the Examiner in the outstanding Office Action but remains of the position that patentable subject matter is present. Applicant respectfully requests reconsideration of the Examiner's position based on the amendments to the claims and the following remarks.

Claim Status and Amendments

Claims 1-8 are presented for further prosecution.

First, it is noted that the claim amendments presented December 15, 2008, were not entered. Thus, the claim amendments presented herein are based on the claims as entered in the July 29, 2008 Response.

Claims 1, 4, 7 and 8 have been amended herein to define the microsilica. Support for this amendment can be found on page 3, lines 5-11.

Claims 1, 4, 7 and 8 have been further amended herein to add "about" to the range of filler.

Claims 1-4, 7 and 8 have also been amended to use more conventional terminology as "in an amount", and recite the step of forming the elastomeric composition.

No new matter was added.

The Invention

The present invention relates to an elastomeric composition having a high filler content of 15% to 500% by weight resin, which additionally contains microsilica in an amount of 1 to 400% by weight of resin as a modifier to improve the processability.

As defined in the specification, the term microsilica used in the specification and claims is amorphous particulates obtained from a process in which silica is reduced to SiO-gas and the reduction product is oxidized in vapor phase to form the amorphous silica. The claimed microsilica has at least 70% by weight SiO_2, a specific density of 2.1 - 2.3 g/cm^3 , a surface area of 15 - 40 m^2/g, and primary particles which are substantially spherical with an average size of about 0.15 µm.

As will be brought out in more detail below, such a silica is not taught in the cited references and provides superior results.

Claim Objections

Claims 1 and 4 are objected to because of the wording "a filler content".

This phraseology has been deleted and the phase "in an amount of" is employed.

Claim Rejections under 35 USC § 112

Claims 1, 4, 7 and 8 had been rejected under 35 U.S.C. 112 as being non-compliance with the written description requirement for the missing word "about".

Applicant has amended claims 1, 4, 7 and 8 to include the word "about" in front of the two percentages of the filler.

Double Patenting Rejections

Claims 1-8 had been rejected as being obvious in view of the copending Application No. 11/718590.

This is an obviousness-type double patenting rejection. The present application was filed on March 8, 2006, which is before the filing date of the cited application 11/718,590 filed on May 3, 2007. Therefore, the Double Patenting rejections should be held in abeyance until this case is ready for allowance.

Claim Rejections - 35 USC § 102

Claims 1-3 had been rejected under 35 U.S.C. 102(b) as being anticipated by Mitsuhashi.

Mitsuhashi teaches a fire-retardant silicone rubber composition with 10-100 parts by weight silica powder, selected from mist silica, hydrophobic silica, set process silica and the end of quartz powder. The Examiner takes the position that since Mitsuhashi teaches a micron sized silica, therefore disclosed the miscrosilica recited in the invention. Applicant respectfully disagrees.

Applicant has amended the independent claims to specifically recite the type of microsilica:

the microsilica is amorphous particulates having at least 70% by weight SiO_2, a specific density of 2.1 - 2.3 g/cm^3 , a surface area of 15 - 40 m^2/g, and has primary particles substantially spherical with an average size of about 0.15 μm, the amorphous particulates are obtained from a process in which silica is reduced to SiO-gas and oxidized in vapor phase.

This feature is fully discussed in the specification (see lines 5-11, page 3). Clearly, there is no teaching of such a specific microsilica in Mitsuhashi. No teaching or suggestion is given on the specific type of particulate silica with specific density, surface area and particle shape.

First, the silica powders numerated in Mitsuhashi are mist silica/fumed silica, hydrophobic silica, wet process silica, and quartz powder. No microsilica is mentioned. The position that mist silica is silica fume and silica fume is miscrosilica, has no support from Mitsuhashi or other literature.

Second, Mitsuhashi only discloses the silica powders having a preferred size less than 50 μm. Comparing with the preferred size of the microsilica recited in the present application, Mutsuhito's silica powder has a preferred size ranges 330 times bigger.

It is respectfully submitted that, since Mitsuhashi does not disclose the microsilica element of the rejected claims with sufficient clarity as required by 35 U.S.C. § 102, Rejections to the claims 1-3 should be withdrawn.

Claim Rejection under 35 USC § 103

Claims 4-8 had been rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsuhashi. The examiner takes the position that the additional step of adding microsilica to the highly filled elastomeric compound is obvious.

Applicant has amended claims 4 and 7 to recite the microsilica is a specific particulate amorphous silica. Mitsuhashi does not teach a method for producing a highly

filled elastomeric compound by adding this specific microsilica, nor does it teach a method of using the specific microsilica as a modifier to improve processability of a highly filled elastomeric compound.

There are enormous varieties of the silica powders with a particle size less than 50 μm are commercially available, such as the mist silica/fumed silica, hydrophobic silica, wet process silica, and quartz powder named in Mitsuhashi. One skilled in the art has no clue to shift his attention to an undisclosed special type of the silica powder, the microsilica, with the specific density, surface area and particle shape as recited in the present invention.

Furthermore, the specific microsilica as recited in the claims produces much improved results compared to other silicas. This fact is brought out in the Examples. Specifically, the Examiner's attention is directed to Examples 2-5 wherein precipitated silica is compared to microsilica.

In Example 2, 50 phr of precipitated silica is replaced with 30 phr precipitate silica and 30 phr microsilica. As shown in Table 2, viscosity dropped, strength increased, and percent elongation to break

increased. As noted, page 5, lines 22 to page 6, line 2, such improvements was deemed surprising.

In Example 3, three compositions were tested and it can be seen that the one with the miscrosilica that microsilica has an amazing effect on compounding, see page 7, lines 4-7.

In Example 4, the addition of microsilica is shown to decrease the viscosity and maintains its tensile strengths and elongation to break when subject to oil at high temperatures, see page 8, lines 6-8.

In Example 5, a comparison of Comp. 2 and Invention, shows about 50% reduction in viscosity during processing, a 50% increase in tensile strength, a 30% increase in percent elongation to break and about a 600% increase in tear resistance.

These differences between precipitated silica and microsilica evidence the fact that microsilica provides unique characteristics to the highly filled elastomeric composition which are not predictable based on Mitsuhashi.

It is respectfully submitted that it is not obvious from Mitsuhashi to used the specific microsilica as recited in the claims 4-8 and therefore, the present invention as claimed in Claims 4-8 are patentable over Mitsuhashi.

One Month Extension of Time

Applicant hereby requests a one month extension of time to respond to the outstanding Office action. An extension fee is concurrently paid with the filing of this submission. Should any further fees or extensions of time be necessary in order to maintain this Application in pending condition, appropriate requests are hereby made and authorization is given to debit account #02-2275.

Conclusion

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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